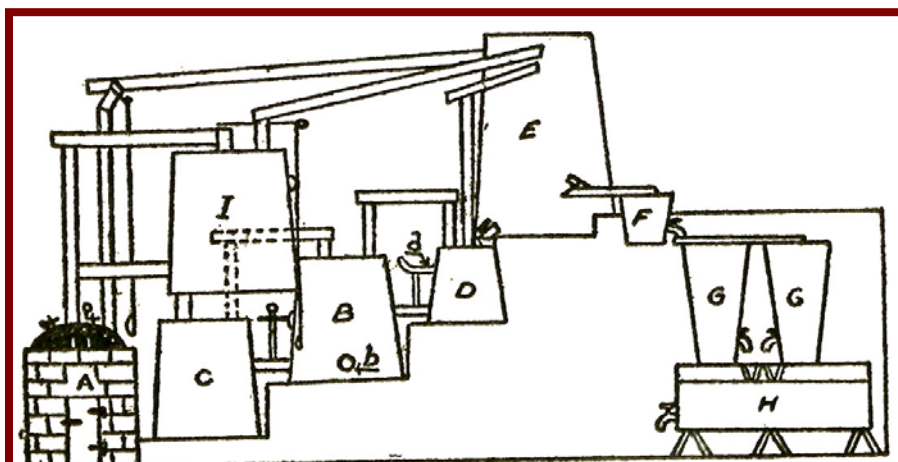


## Still More: from Pots to Columns



- A. Horizontal Boiler with central flue for burning wood.  
B. No. 1 Still or preheater 4 ft. 7 in. x 6 ft. (b) pipe for charging from fermenters.  
C. No. 2 Still 4 ft. 7 in. x 6 ft.  
D. Doubler 2 ft. 7 in. x 3 ft. 8 in. (d) Low wines and Faints pipe.  
E. Worm Tub 5 ft. 6 in. x 9 ft.  
F. Spirit Receiver 2 ft. 2 in. x 2 ft.  
G. G. Percolators filled with charcoal 2 ft. 6 in. x 5 ft.  
H. Receiver for purified Spirit.  
I. Warm Water Tank for mashing—water, etc., connected by wooden pipes with steam boiler and top of worm tub.  
Diameters stated at half depth.  
All Pipes of wood.

**1830s Pot Still diagram from *The Windmill & Its Times***

Industrial heritage enthusiasts may be interested in the more technical aspects of distilling spirits at the Distillery District. (Others may simply prefer to sample the product and enjoy the Distillery District environs.) In the nineteenth century, distilling technology evolved from the ancient and honourable “pot still” that produced batches of alcohol, to the more efficient continuous “column still” system that produced purer, lighter-tasting spirits. (Single malt distilleries in Scotland continue to rely on pot stills because of the more flavourful results.)

Unfortunately, nothing remains of William Gooderham’s earliest efforts, but he undoubtedly used a pot still since no other technology was available. The best source of information about early days at Gooderham & Worts is *The Windmill & Its Times* published in 1924 by E. B. Shuttleworth, who included the somewhat confusing but still helpful diagram of an 1830s Upper Canadian pot

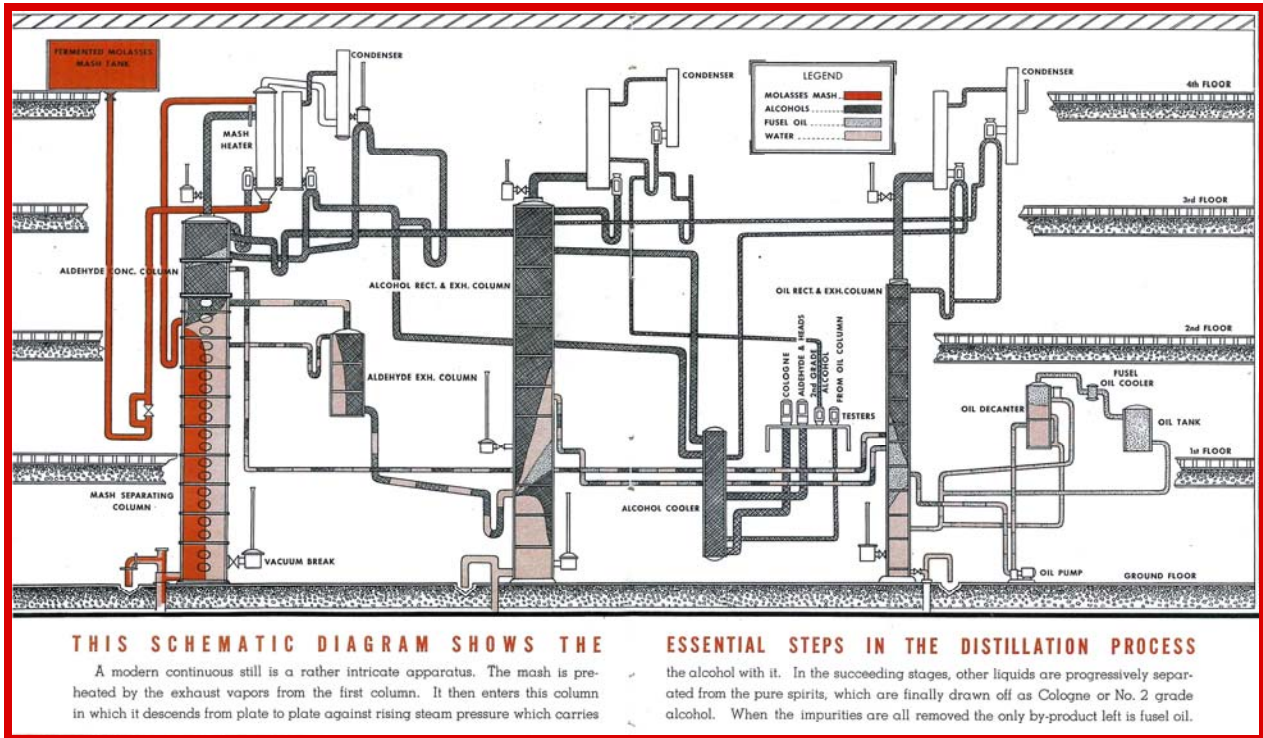
still apparatus reproduced here. According to Shuttleworth and contemporary paintings, Gooderham's first stilling operation was housed in a frame structure located to the south and west of the windmill tower, essentially where Distillery Walk now passes between the foundations of the windmill and the 1860 Stone Distillery.

Gooderham's pot still operation was powered by steam engine, not wind. Its pipes, vessels, and stills were all constructed of wood, probably pine. One still was packed with round lake stones (perhaps to facilitate condensation), the percolators (G) were stuffed with charcoal to (roughly) purify the spirits; and most of the raw but extremely flavourful product was consumed virtually immediately, without any aging at all. Better whisky was produced by a second distillation.

Around 1846, Gooderham and his new partner James Gooderham Worts installed their first "continuous" column still in the old Windmill distillery – the so-called "Riley's patent still" that was improved by the proprietors themselves. The new copper still had an immediate impact on production, generating 80,000 gallons of whisky per year.

Gooderham & Worts' 1860 Stone Distillery represented a quantum leap forward in scale and capacity, able to produce over 2 million gallons per year. The new column still rose 40 feet through the third and fourth floors of Building 5. Fermented mash was fed in continuously from above, flowed down the "analyzer column" containing perforated plates, and mixed with steam vapour rising from the bottom. The alcohol in the mash vapourized and flowed into the "condenser," where the alcohol vapours rose through a series of perforated chambers and were condensed by cooling into a fluid. Three elevated circular "receivers" collected the spirits, while a large, separate square chamber at the base of the still collected spent wash, which was collected and piped out of the building to be used for cattle feed. Better quality whisky was produced by a second distillation through two copper pot stills located in the still-standing old windmill tower. After distilling, the spirits were filtered through tall, wooden, charcoal-packed rectifying vats located on floors 3 and 4, and then racked off into wooden barrels for aging.

Ultimately, both distilling and rectifying columns were combined into a single intricate apparatus that could produce drinking and non-drinking industrial alcohols, as represented the following diagram published by Gooderham & Worts in 1938.



**1937 Continuous Still diagram**

**DHD**

For additional information, see E.B. Shuttleworth's *The Windmill* (1924); *The British Colonist* of April 16, 1850; *The Canadian Illustrated News* of April 25, 1863; Gooderham & Worts' 1938 publication, *Industrial Alcohol*; and Dianne Newell, "Gooderham & Worts Distillery in Toronto" in *Survivals: Aspects of Industrial Archaeology in Ontario* (1989).

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